

REVISED RCRA COMPLIANCE EVALUATION INSPECTION REPORT

ENVIRONMENTAL PROTECTION AGENCY  
REGION IX

HAZARDOUS WASTE MANAGEMENT DIVISION  
WASTE COMPLIANCE

Facility: ETICAM, Inc.  
Fernley, NV

Facility ID Number: NVD 980 895 338

Date of Inspection: March 13, 1990

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ETICAM, INC. FERNLEY NEVADA

INTRODUCTION

ETICAM Corporation (EPA Identification Number NVD 980 895 338) is a hazardous waste treatment storage disposal facility permitted to treat and store F006 - F009, F011, F012, D002, D003, D006 - D008, and D011 wastes for metal recovery. They accept industrial wastewater sludges in bulk shipment from electroplating, electroless plating and other industrial solutions containing recoverable precious metals (heavy metals, cyanide, acids, and alkali solutions).

Delivery trucks are required to enter an indoor bermed unloading bay with sloped floors and spill collection areas. All shipments are sampled and matched to a generator waste stream analysis profile. Waste streams which match their profiles are immediately emptied into the appropriate holding tank and the vehicle is rinsed in the unloading bay. Waste streams which do not match their profiles are either rejected and sent back to the generator, or a new treatment strategy is designed and implemented.

ETICAM currently receives, from generators via tanker trucks, 80,000 to 200,000 gallons of waste per month. Once at the facility, the liquid waste is classified according to its metal composition and is transferred to storage tanks prior to processing. The liquid is then pumped to one of three treatment basins, each with a capacity of 7,292 gallons. All piping and storage vessels have secondary containment.

Metals are precipitated out of solution and the resulting sludge is pumped through a filter press where it is dewatered and a filter cake is produced. This filter cake is processed through one of three dryers, each with a capacity of three cubic feet per hour. The end product of the process is shipped to smelters for reclamation. The treated effluent is then evaporated in an evaporator crystallizer system which separates dissolved salts. These salts are hazardous waste by-products.

The facility has petitioned <sup>EPA and</sup> the Nevada Department of Environmental Protection (NDEP) to De-list the salt by-products. However, until the salts become De-listed, they must be treated as hazardous waste and the facility must comply with all relevant regulations.

## PERMIT STATUS

On March 25, 1985, ETICAM submitted a Part A Permit Application to both the EPA and NDEP identifying itself as a storage and treatment facility. The facility first submitted its Part B Permit Application on May 25, 1985. After several application revisions, the NDEP under authority of the Nevada Revised Statutes 459.520 and Nevada Administrative Code 444.85000 through 444.9335, granted ETICAM a permit to operate as a hazardous waste management facility effective December 24, 1986 and remains in effect through December 24, 1991. ETICAM submitted a Part B Permit Modifications Application on October 25, 1989. The modifications include expanding their capabilities and types of wastes treated, and clarifying the training and contingency plan sections. To this date, the permit modifications have not been approved, therefore, ETICAM must follow all the conditions of the original permit.

## SUMMARY OF LAST COMPLIANCE EVALUATION INSPECTION

During the last Compliance Evaluation Inspection (CEI) on June 19, 1989, the potential violations cited included the following: 1) treatment reagents placed in one tank caused a minor leak, 2) three new tanks were installed without the professional engineer assessment, 3) the personnel protective equipment was stored in a dirty and unkept manner, and 4) the overall housekeeping needed attention. All of these violations have been addressed by ETICAM.

## INVESTIGATION

In preparation for the inspection, a file review was performed on relevant documents obtained from EPA Region IX. These documents include past CEI reports (1988 & 1989), various EPA and ETICAM correspondence, Hazardous Waste Storage and Treatment Permit, and the Part A Permit Application. A complete list of documents is presented in Attachment 2. In addition, Alene Coulson of the NDEP was contacted prior to the inspection. She arranged for Jennifer Hughes and Tim Murphy, Environmental Management Specialists with the NDEP, to accompany the contractors on the inspection. Also, the EPA arranged for William Weis, Environmental Scientist, to attend the inspection for contractor oversight.

The one day, unannounced inspection took place on March 13, 1990. The inspectors arrived and immediately contacted the ETICAM General Manager. The inspectors identified themselves and their intention to conduct a one day Compliance Evaluation Inspection. No problems were encountered gaining access or photographing the facility.

The contacts made during the opening meeting were Byron Bradd, General Manager, Tom Medeiros, Production Manager, and Kenneth Tyler, Regulatory Coordinator.

## SITE INSPECTION

### Laboratory (photo 1)

ETICAM maintains and operates an analytical laboratory which serves a variety of distinct functions. Laboratory activity appeared to be performed in accordance to the Waste Analysis Plan.

The inspectors focused on the relevant requirements of 40 CFR 262, generator determination, fully regulated generator requirements, use and management of containers, and full implementation of the waste analysis plan. Overall, the laboratory appeared to be in good condition. The housekeeping was improved from the previous inspection. The reagents were no longer stored on top of filing cabinets. Instead, they were properly stored and all wastes were disposed of in accordance with applicable hazardous waste regulations. However, the laboratory waste collection drum label was faded and difficult to read (photo 1).

### Receiving Area- Tank and Tote Unloading Area (photos 2 & 3)

Incoming waste solutions are off-loaded in a receiving bay located on the west side of the facility (photo 2). The bay is divided into three distinct sections which are separated by a berm in order to segregate and avoid mixing of incompatible wastes. The floor is sloped to contain any wash waste or accidental spills within a protected area. Any spill or wash waste is collected, pumped and treated as hazardous waste. Upon unloading, the solutions are further segregated depending on their metal composition, concentration, pH and cyanide content.

The inspectors focused on the implementation of the waste analysis plan and assurance of proper separation of wastes. The receiving area would benefit from some health and safety improvements. Ambient cyanide (HCN) and hydrogen sulfide (H<sub>2</sub>S) monitoring is conducted in several other areas of the facility. Air monitoring in the receiving area could prove to minimize worker exposures. The inspectors suggested that additional monitors be installed in the receiving area. The facility agreed and verbally indicated that they would install the monitors. Also, two respirators with cartridges intact, were sitting on top of a desk (photo 3). This is improper storage. The respirators should be stored in an air tight container, clean and without cartridges. No other violations were noted in the receiving area.

### Storage Area- Tank Farm (photos 4 & 5)

After the facility has deemed the waste acceptable, it is transferred by gravity to a waste storage area called the tank farm. The tank farm consists of 28 tanks built approximately 20 feet below grade in a concrete structure. Each group of tanks is segregated by concrete walls varying between four and a half and seven feet in height. Each containment area holds at least 110 percent of the largest

tank volume (photos 4 & 5). The floors and walls have an epoxy coating and a waterstop along the containment floor to wall union. ETICAM personnel inspect the storage area daily. If anything unusual is noted, an appropriate response is conducted within a timely manner. Each containment area has a blind floor sump with a liquid detection alarm. The alarms are connected to a control panel which gives the exact location of the incident. The alarms are audible throughout the facility. In addition, each tank is equipped with a high level alarm. All alarms in the tank farm are operational and inspected on a weekly basis.

Relevant requirements of 40 CFR 265 Subpart J and Part III of the Permit were evaluated. Two weeks prior to this inspection, the HCN monitor system detected gas in the tank farm. Apparently, chromic acid and cyanide wastes were placed in the same tank and released cyanide gas. A cyanide waste stream was mistakenly unloaded in a chromic acid holding tank. The unloading was immediately ceased and the contingency plan was implemented. The plant was shut down and all the necessary steps were taken. The estimated release of HCN was quite minimal, never reaching dangerous levels (approximately .01 pounds). The report documenting the facility's notification is included as part of attachment attachment three.

No violations were noted in the tank farm.

#### Treatment Tanks (photos 6 & 7)

Waste solutions are pumped from the storage area to the liquid processing area for treatment. Metals are removed from solution by precipitation. Each treatment tank is equipped with a mechanical mixer and automated treatment chemical system (photo 6). Currently, the facility maintains three treatment tanks. Each tank has a 7,292 gallon capacity. Two of the tanks are used for alkaline or acidic wastes and the third for wastes containing cyanides. After processing, the treated wastewater and resultant precipitate sludge are transferred to sludge holding tanks before filtration.

The treatment tanks were evaluated for compliance with relevant requirements of 40 CFR 265 subparts J and Q, and Parts IV and V of the Permit. The overall housekeeping in the treatment area was adequate. The inspection schedule for treatment tanks did not initiate any action to repair leaks. One pipe leak was noted (photo 7). The leak dripped directly into a treatment tank, however, no spills or releases were noted. Inspections schedules should instigate any corrective action necessary to repair substandard equipment. The internal inspections did not appear to initiate any response from the facility. This is in violation of the Permit, Part 2, Section C.

#### Concentration - Filter Press (photos 8 & 9)

The sludge generated from treatment is pumped to the filter press for dewatering (photo 8). The filter press can accommodate ten cubic feet of sludge per use. After pressing, the sludge cake is collected and transferred to one of three dryers (photo 9). The dried material is then tested for its metal content, drummed and shipped for smelting.

This area was evaluated to assure compliance with the methods described in the Part B Permit. The filter press area was well organized and no violations were noted.

#### Salt Crystallization (photos 10 & 11)

Filtrate from the filter presses is transferred to a pH adjustment tank to neutralize the solution. After the adjustment, the effluent is passed through ion exchange columns, then to an evaporation system. Approximately 50 percent of the liquid is driven off in a falling film evaporator. The remainder of the solution is transferred to a forced circulation crystallizer, where the liquid content is further reduced. The resulting salts are removed and stored in drums as F006 hazardous waste. The condensate goes back to the crystallizer. The condensate from the falling film filter evaporator is used as plant make-up water, or discharged to the sewer.

This area was evaluated to assure compliance with the methods described in the Part B Permit. The crystallization area was crowded, but no violations were evident. The area is also used to store the by-product drums that were removed from the storage pad due to deteriorating condition. These drums were stacked outside the crystallizer in a bermed area (photos 10 & 11), awaiting transport to another treatment facility (ESI in Idaho). ETICAM is currently in the process of removing all the substandard storage drums in the storage pad and placing them in the crystallization area until they are shipped off-site. The crystallization area is under permit and storage can be longer than 90 days.

#### Drum Storage Pad (photos 12-18)

The F006 salt by-product is stored in 55 gallon drums and placed in the drum storage pad. The pad is 100 feet by 160 feet and is designed to contain spills and collect rainwater (photo 12). The pad's capacity is 4,400 drums stacked two high with two foot wide aisles. The drums are placed in rows 20 deep and are inspected twice daily for leaks.

The pad is sloped to a corner sump for pump-out. The curbs will contain about 1,500 gallons of liquid. Also, a rainwater collection pond is attached via a conduit to collect any storm run-off which may over-flow from the pad (photos 13 & 14). The collection pond accumulates the run-off from the hazardous waste storage pad in the event of flooding. Flooding is anticipated to occur once every 100 years. All collected rainwater is analyzed for metal contamination. If any contamination is found, the water is pumped to the plant for treatment.

Several violations were noted in the storage area.

The storage pad is not included in the RCRA Part A Permit application or in the facility's Hazardous Waste Permit [REDACTED] and can only be used to accumulate hazardous waste for 90 days. The facility admitted to past practices to storing the accumulated waste by-product for more than 90 days. The other noted violations include several of the drums were either leaking, in poor condition or had residue spilling from the top (photos 15-18). The drums are stored on an open uncovered pad. Several of the over-spills were due to the salt expanding from sun exposure. The facility must manage the drums in a way to minimize ruptures and leakage. The facility also must rectify any spills or leaks as noticed during the internal inspections and recorded in the inspection log. The facility did not immediately respond to leaking and overspilling drums.

ETICAM only began shipping waste off-site in March 1990. They are currently shipping the waste to ESI in Idaho at approximately one tanker-truck load per week, by a certified hazardous waste hauler. After the drums are emptied, they are inspected to evaluate their integrity. Drums found to be in poor condition are either repaired or shipped off-site as hazardous waste.

## DOCUMENT REVIEW

During the inspection, the following documents were reviewed at ETICAM: Revised Part B Permit Application, Revised Contingency Plan, Waste, Sludge, and Toxicity Analysis Reports, Hazardous Waste Manifests, Notification and Certification of Restricted Wastes (ETICAM forms), all Facility Inspection Logs, training records, and containment pond soil survey results.

Most documents were found to be in order, current and in compliance. The problems found are discussed below.

### Notification and Certification of Restricted Wastes (Attachment 9)

ETICAM has in the past accepted restricted wastes without the proper Land Disposal Restrictions (LDR) notification. Even though this is not a TSDF violation, good management procedures dictate that all shipments have proper notifications and certifications. ETICAM claimed they no longer accept waste without the LDR notices.

### Facility Logs (Attachment 7)

ETICAM maintains numerous and complex facility logs. These logs verify that all internal inspections specified in the Part B permit are performed. On occasion, a few of the logs were not filled out according to the inspection schedule (Attachment 7). Simplifying and consolidating some of the inspection logs would ease achieving total compliance.

Also, the HCN and the H<sub>2</sub>S monitors were not routinely inspected. The inspectors suggested that each monitor be tested on a regular basis to assure the system is operable.



POTENTIAL VIOLATIONS

40 CFR 262.34(a)(2)

The accumulation start date was not clearly marked on each individual drum. Some of the labels were faded and difficult to read (photo 1 ).

40 CFR 262.34(d)

Generators must comply with 265 Subpart I (containers). The storage drums used to contain the salt by-product were not managed in a way to prevent rupture and leakage (265.173 & 264.173) (photos 10, 11 & 16 - 18).

40 CFR 265.173

Permittee shall manage containers as required by NAC 444.9085 and 40 CFR 265.173. All containers must be closed and managed in a way to minimize rupture or leakage (photos 16 - 18).

40 CFR 264.15(c)

Permit Section II. C

Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by NAC 444.8885. The facility did not repair a leak in a pipe above one of the treatment tanks and transfer waste from leaking drums stored near the salt crystalizer (photos 7, 10 & 11).

40 CFR 264.119(a)

Permit Section IV. F1

In February 1990, a cyanide waste stream was accidentally placed in a chromic acid holding tank. This constitutes incompatible mixing in tanks. The event occurred once and was corrected immediately.

40 CFR 264.171

Permit Section III. B

The facility did not transfer hazardous waste from containers not in good condition to containers in good condition (photos 10 & 11).

40 CFR 262.34

The facility accumulated hazardous waste at the container storage area for a period exceeding 90 days without first obtaining a permit or without having interim status.

#### ATTACHMENTS

1. Photograph Log and Photographs
2. List of Referenced Materials
3. RCRA Checklists and ETICAM's notification of cyanide gas release
4. Part A Application (dated March 25, 1985)
5. Hazardous Waste Permit (dated December 24, 1986)
6. List of Facility Contacts
7. Samples of Facility Inspection Logs
8. Facility Land Disposal Restriction Notification (in-house form)
9. Sample Manifests and LDR Notifications
10. Revised Contingency Plan (dated February 22, 1990)